

❖ **GO-5000-PGE**  
5-megapixel CMOS global shutter



- **Large format 5 MP CMOS imager (global shutter)**
- **Up to 22 fps at full resolution**
- **5.0  $\mu\text{m}$  square pixels**
- **Small size (29 x 29 x 41.5 mm, excluding lens mount)**
- **8/10/12-bit output in choice of monochrome or raw Bayer color models**
- **60 dB linear dynamic range with built-in HDR modes up to 100 dB (monochrome only)**
- **Analog and digital gain control for less quantized noise in low-light situations**
- **Exposure control from 10  $\mu\text{s}$  to 8 seconds in 1  $\mu\text{s}$  steps**
- **2X and 4X binning for increased sensitivity (monochrome only)**
- **Single and multi-ROI modes for flexible windowing and use of 2/3" or smaller optics**
- **Accepts power over GigE Vision interface or separate 6-pin connector**
- **C-mount lens mount**
- **Automatic Level Control (ALC) for dynamic lighting conditions**

# Specifications for GO-5000-PGE

# Go Series

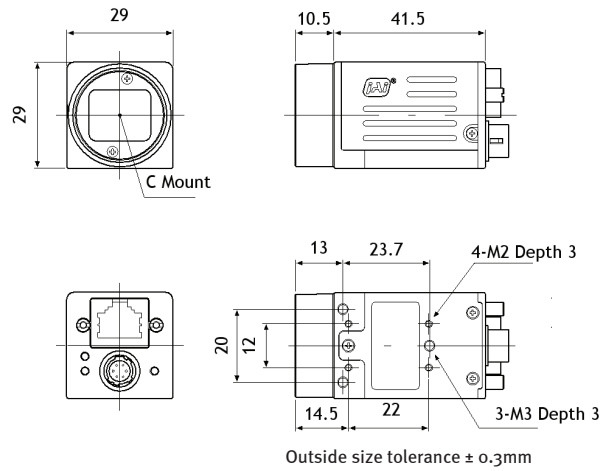
Specifications	GO-5000-PGE
Sensor	1" CMOS global shutter (Lince5M)
Pixel clock	48 MHz
Frame rate, full frame	22 frames/sec. @ 8-bit
Active area	12.8 mm (h) x 10.2 mm (v), 16.39 mm diagonal
Cell size	5.0 μm (h) x 5.0 μm (v)
Active pixels	2560 (h) x 2048 (v)
Read-out modes	2560 (h) x 2048 (v) up to 22 fps
Full ROI (mono)	Any start line, any height in 1-line steps, with X offset and width in 8-pixel steps
ROI (color)	Any start line, any height in 2-line steps, with X offset and width in 8-pixel steps
Binning	1x2, 2x1, 2x2, 4x4 (monochrome only)
EMVA 1288 Parameters	10-bit output format
Absolute sensitivity (mono)	20.17 p (λ = 525 nm)
Absolute sensitivity (color)	51.25 p (λ = 525 nm)
Maximum SNR (mono)	41.30 dB
Maximum SNR (color)	38.12 dB
Traditional SNR*	mono >55 dB (0 dB gain)
color	>53 dB (0 dB gain, green,)
Video signal output	8/10/12-bit monochrome
color (raw)	8/10/12-bit raw Bayer
Gain (digital)	Manual/automatic 0 dB to +24 dB
Gain (analog)	1x, 2x, 4x (mono or individual Bayer channels)
White balance (GO-5000C)	Manual, one-push auto, or continuous (3000K to 9000K)
Gamma	0.45, 0.6, 1.0 or 32-point LUT (16-pt. color)
Synchronization	Internal
Trigger input	Opto In, Pulse Generators, Software, User Output, Actions
Trigger modes	EPS, Trigger Width, Timed RCT (with ALC), Sequence
Electronic shutter	
Timed exposure	10 μs to 8 sec in 1 μs steps
Auto shutter	1/22 to 1/10,000 sec.
Auto Level Control (ALC)	Shutter range from 1/22 to 1/10,000, gain range from 0 dB to +24 dB Tracking speeds and max values adjustable.
High Dynamic Range function	4 built-in HDR slopes. Selectable up to -100 dB (monochrome only).
Pre-processing functions	Blemish compensation (256 pixels)
Operating temperature	-5°C to +45°C
Storage temperature	-25°C to +60°C
Humidity	20 - 80% non-condensing
Vibration	10 G (20Hz to 200Hz XYZ)
Shock	80 G
Regulations	CE (EN61000-6-2, EN61000-6-3), FCC Part 15 class B, RoHS/WEEE
Power	
6-pin connector	12V to 24V DC ± 10%. 2.5W typical @ 12V
PoE	35V to 57V DC. 3.19W typical @ 55V
Lens mount	C-mount
Dimensions (H x W x L)	29 mm x 29 mm x 41.5 mm (excl. lens mount)
Weight	46 g

## Ordering Information

GO-5000M-PGE	Monochrome camera with GigE Vision
GO-5000C-PGE	Color camera with GigE Vision

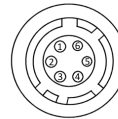
\*Traditional SNR is based on random noise in a single frame, where EMVA SNR measurements consider more comprehensive noise sources and variance over time. For a more complete description, see the manual.

## Dimensions



## Connector pin-out

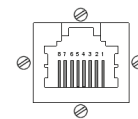
### DC In / Trigger



HIROSE HR-10A-7R-6PB(73)

Pin	Signal
1	+12V to +24V DC Input
2	Opto In 1
3	Opto Out 1
4	Opto Out 2
5	Opto Common
6	GND

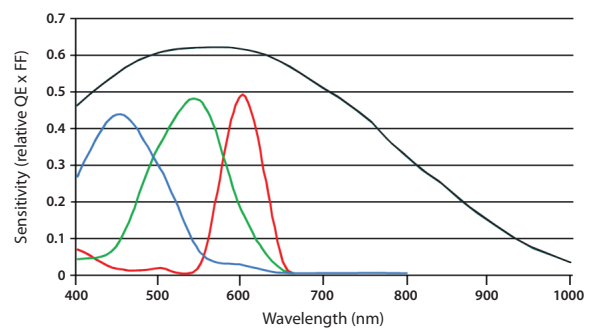
### GigE Vision Interface



RJ-45 with locking screws

Pin	Signal
1	TRD+ (0)
2	TRD- (0)
3	TRD+ (1)
4	TRD+ (2)
5	TRD- (2)
6	TRD- (1)
7	TRD+ (3)
8	TRD- (3)

## Spectral Response



Monochrome —  
Red — Green — Blue —

Note: Color response includes IR-cut filter.

Company and product names mentioned in this datasheet are trademarks or registered trademarks of their respective owners. JAI AS cannot be held responsible for any technical or typographical errors and reserves the right to make changes to products and documentation without prior notification.

Europe, Middle East & Africa  
Phone +45 4457 8888  
Fax +45 4491 3252

Asia Pacific  
Phone +81 45 440 0154  
Fax +81 45 440 0166

Americas  
Phone (Toll-Free) 1 800 445 5444  
Phone +1 408 383 0300

Visit our web site on [www.jai.com](http://www.jai.com)



See the possibilities